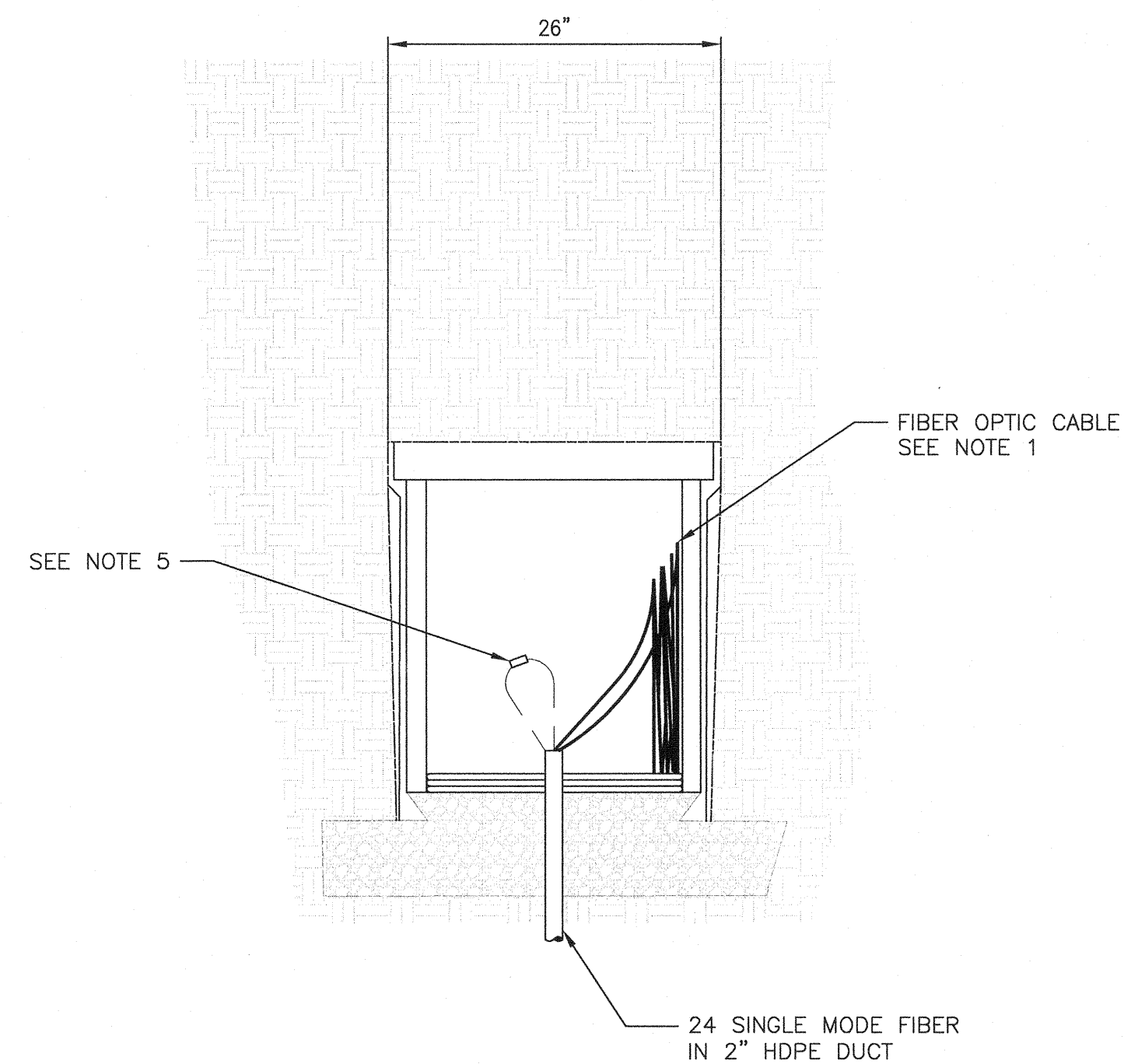


HAND HOLE DETAIL
BELOW GRADE

N.T.S.



CABLE TAG DETAIL

NOTES:

1. COIL MINIMUM 100' FIBER OPTIC CABLE SERVICE LOOP IN VAULT.
2. CONTRACTOR TO LOCATE SPLICE BOXES AS CLOSE TO PROPERTY LINES AND/OR FENCE LINES AS PRACTICAL.
3. GPS COORDINATES TO BE TAKEN FOR ALL LOCATIONS PER FIELD INSTALLATION.
4. REFER TO E-GA-30 AND E-FL-30 FOR SPLICE LOCATIONS.
5. TRACER WIRES TO BE BONDED TOGETHER AND ELECTRICALLY INSULATED.
6. ALL FIBER MUST BE LABELED WITHIN 12" OF TERMINATIONS WITH CABLE/WIRE DESTINATION.
7. IF HAND HOLE IS BURIED USE LOCATOR BALL.

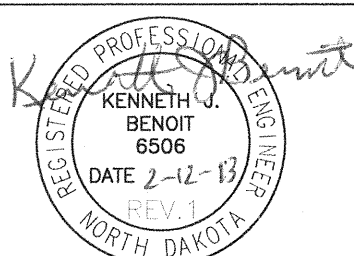
BILL OF MATERIALS - FIBER OPTIC SPLICE, BELOW GRADE

ITEM	QUANTITY	UNIT	DESCRIPTION	MANUFACTURER	CATALOG
63	2	FT	2" HDPE CONDUIT 90 DEGREE ELBOW, 24" RADIUS		
110	1	EA	ENCLOSURE, PRECAST POLYMER CONCRETE ENCLOSURE 24"x36" GASKETED, HEAVY DUTY w/ 2 BOLTS	QUAZITE	PG246HG00
111	1	EA	COVER, PRECAST POLYMER CONCRETE ENCLOSURE 24"x36" GASKETED, HEAVY DUTY w/ 2 BOLTS	QUAZITE	PG246HG00
114	*	FT	LOCATOR BALL (AS NEEDED, SEE NOTES)	3M	EMS1422-XR/ID POWER



PIKE ENERGY SOLUTIONS, LLC.
10101 Claude Freeman Drive, Suite 100W
Charlotte, NC 28262
ND License No. 954PE

A	BNK	RJG	CSF	8/16/11	85% DELIVERABLE
B	BNK	CSF	CSF	9/20/11	90% DELIVERABLE
O	BNK	CSF	JLM	10/4/11	ISSUED FOR CONSTRUCTION
1	NJG	KM	KM	12/3/12	CONSTRUCTION REVISIONS, NO CHANGES
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

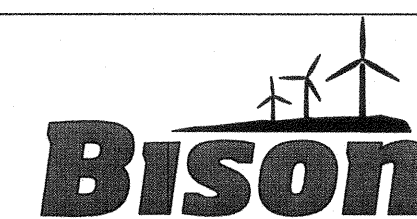


CLIENT	8/16/11	9/20/11	10/4/11				
BID							
CONSTRUCTION							
PERMITTING							
RELEASED TO/FOR	A	B	C	0	1	2	3
	DATE RELEASED						



Project Office:
BARR ENGINEERING CO.
4700 WEST 77TH STREET
MINNEAPOLIS, MN.
55435-4803
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www.barr.com

Scale	N.T.S.
Date	08/16/11
Drawn	BNK
Checked	CSF
Designed	RJG
Approved	JLM



A WIND ENERGY INITIATIVE OF MINNESOTA POWER IN NORTH DAKOTA

BISON 3 WIND PROJECT MORTON & OLIVER COUNTIES, NORTH DAKOTA	
COLLECTOR SYSTEM BELOW GRADE FIBER OPTIC HAND HOLE	

BARR PROJECT No.	34/33-1006
CLIENT PROJECT No.	
DWG. No.	E-FS-33
REV. No.	1